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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,593	08/01/2003	Richard P. Kolb	SSPI0015.001	1592
26629	7590	06/30/2004	EXAMINER	
ZIOLKOWSKI PATENT SOLUTIONS GROUP, LLC (ZPS)			ROJAS, BERNARD	
14135 NORTH CEDARBURG ROAD			ART UNIT	
MEQUON, WI 53097			PAPER NUMBER	
			2832	
DATE MAILED: 06/30/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/604,593	KOLB ET AL.	
	Examiner	Art Unit	
	Bernard Rojas	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03/12/2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 18-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17, 23-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08012003</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of invention I in Paper No. 0312004 is acknowledged. The traversal is on the ground(s) that there is no support for the conclusion that the product, as claimed can be made by another materially different process. This is not found persuasive because there are many ways in which to secure a plunger within a bore of a bobbin or to bias the plunger such as the use of a conical spring, a leaf spring or magnetic biasing.

The requirement is still deemed proper.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

48. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "48" has been used to designate two different parts, one in figure 2 and the other in figure 3. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is meant by the phrase "a permanent magnetic separated from the armature..." in claim 11 line 4 on the claim. For examination purposes in this office action, the phrase will be interpreted as "a permanent magnet separated ..."

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by KIM et al. [KR 2001081459 A]

Claim 1, KIM et. al discloses a solenoid with, a magnetically conductive shell [26] having a single coil of wound wire [24], a movable magnetic object [21] disposed within a bore of the single coil, the object configured to receive a magnetic force when current is induced in the single coil and a permanent magnet [27] having a fixed polarity that

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repels the moveable magnetic object when current is induced in the single coil and attracts an end of the movable magnetic object when no current is induced in the single coil.

Claim 2, KIM et al. discloses that the moveable magnetic object is a plunger.

Claim 3, KIM et al. discloses a solenoid with a non-magnetic spacer [25] disposed between the permanent magnet and the movable magnetic object.

Claim 11, KIM et al. discloses an electromagnetic device with a bobbin [23] having a single coil of wire [24] wrapped there-around, a movable armature [21] disposed within the single coil; and a permanent magnet [27] separated from the armature by a non-magnetic spacer [25] wherein the permanent magnet attracts the armature when the single coil is de-energized and repels the armature when the single coil is energized.

Claims 1-7 and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Eberts et al. [US 6,218,921].

Claim 1, Eberts et al. discloses a solenoid with, a magnetically conductive shell [29] having a single coil of wound wire [57], a movable magnetic object [15] disposed within a bore of the single coil, the object configured to receive a magnetic force when current is induced in the single coil and a permanent magnet [65] having a fixed polarity that repels the moveable magnetic object when current is induced in the single coil and attracts an end of the movable magnetic object when no current is induced in the single coil.

Claim 2, Eberts et al. discloses that the moveable magnetic object is a plunger [figure 3].

Claim 3, Eberts et al. discloses a solenoid with a non-magnetic spacer [45] disposed between the permanent magnet [65] and the movable magnetic object [15, figure 4]].

Claim 4, Eberts et al. discloses a return spring [51] operationally connected to bias the movable magnetic object in a return no current is induced position against the spacer when in the single coil [figure 4].

Claim 5, Eberts et al. discloses an end plate connected to an end opposite to that of the return spring and an attracting stud [31] connected to the end plate, the attracting stud having a polarity opposite to that of the movable magnetic object when current is induced with a specific electrical polarity in the single coil [figure 3].

Claim 6, Eberts et al. discloses a solenoid further comprising a housing [29] having the single coil [57], the plunger [15], the spacer [43] and a bobbin [59] disposed therein.

Claim 7, Eberts et al. discloses that the single coil is wrapped around the bobbin [figure 3].

Claim 11, Eberts et al. discloses an electromagnetic device with a bobbin [59] having a single coil of wire [57] wrapped there-around, a movable armature [15, 55] disposed within the single coil; and a permanent magnet [65] separated from the armature by a non-magnetic spacer [43] wherein the permanent magnet attracts the

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armature when the single coil is de-energized and repels the armature when the single coil is energized.

Claim 12, Eberts et al. discloses an end plate connected to an end opposite to that of the return spring and an attracting stud [31] connected to the end plate, the attracting stud having a polarity opposite to that of the movable magnetic object when current is induced with a specific electrical polarity in the single coil [figure 3].

Claim 13, Eberts et al. discloses a return spring [51] operationally connected to bias the movable magnetic object in a return no current is induced position against the spacer when in the single coil [figure 4].

Claims 14-16 Eberts et al. discloses the plunger is configured to have two different polarities [col. 4 lines 50-65].

### ***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).



The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10, 17 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eberts et al. [US 6,218,921].

Claims 8 and 17, Eberts et al. teaches the claimed invention with the exception of using shunt components. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a number of shunt components connected to the bobbin in order to direct the magnetic field created by the energized coil.

Claim 9 and 10, Eberts et al. teaches the claimed invention with the exception of teaching the placement of shunt components. It would have been an obvious matter of design choice as to the exact placement of the shut components deepening on the desired magnetic field.

Claims 23, 25 and 26, as previously discussed in claim 11 Eberts et al. teaches the claimed invention with the exception of providing it in kit form. It would have been obvious for one of ordinary skill in the art at the time in invention was made to put the components in kit form in order to facilitate on-site assembly of the solenoids.

Claim 24, as previously discussed in claim 12, Eberts et al. teaches the claimed invention with the exception of providing it in kit form. It would have been obvious for



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one of ordinary skill in the art at the time in invention was made to put the components in kit form in order to facilitate on-site assembly of the solenoids.

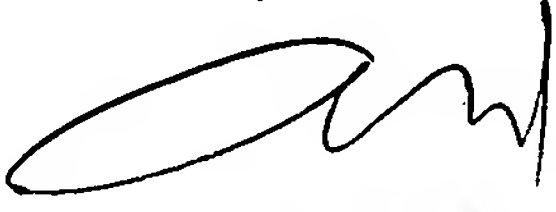
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00), every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BR

  
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5/27/04